Format No: CP/TF/01

TEST REPORT ON COARSE AGGREGATES

Lab ID	:	**CP-2018-04-23-13** **Date: 25-04-18**
Customer	:	Assistant Executive Engineer, Shettyhalli Sub division, BBMP, Bangalore.
Address	:	Shettyhalli Sub division, BBMP, Bangalore.
Project Name	:	Providing pothole filling and other maintenance works at Ward No. 13, Mallasandra in Shettyhalli Sub-Division.(Emergency Grant)
Agency	:	M/s Inchara Construction, No. 60, 4th feet, Nandhi Nagara, Hesaraghatta Main road, Chikkabanavara, Bengaluru-90.
Customer's Reference	:	EE/DD/WO/315/17-18
Source of Sample	:	Sample supplied by Agency
Sample condition	:	Satisfactory
Date of Receipt	:	23-04-18
Sample ID No	:	2018-04-23-13 /02
Sample Type	:	40mm down size coarse aggregate
Reference to BIS codes	:	IS: 383:2016 (Specification for Coarse and fine Aggregates) IS: 2386 :1963(Part - 1,3,4) RA2011 IS 2386 Part 1: Particle Size and Shape IS 2386 Part 3: Specific gravity, Density, Voids,Water Absorption IS 2386 Part 4: Mechanical Properties
Date of test	:	23-04-18

SIEVE ANALYSIS (PARTICLE SIZE DISTRIBUTION) OF 40MM DOWN COARSE AGGREGATE:

Total weight taken : **15000** **grams**

Sample ID No.	Sieve No.	Weight Retained in gms	Cumulative Weight Retained in gms	% Cumulative Weight Retained	% Passing	Required as per IS 383:2016
1	80 mm	0	0	0.0	100	100
2	40 mm	245	245	1.6	98.4	90-100
3	20 mm	5644	5889	39.3	60.7	30-70
4	10 mm	4566	10455	69.7	30.3	10-35
5	4.75 mm	4288	14743	98.3	1.7	0-5
6	Pan	257	15000	100.0	0	---

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ತ್ ಬೆಂಗಳೂರು ಮಹಾನಗರ ಪಾಲಿಕೆ
ಎಂ. ರಸ್ತೆ, ರವೀಂದ್ರನಗರ, ಬೆಂಗಳೂರು

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TEST REPORT OF FINE AGGREGATE

Lab ID	:	**CP-2018-04-23-13** **Date: 25-04-18**
Customer	:	Assistant Executive Engineer, Shettyhalli Sub division, BBMP, Bangalore.
Address	:	Shettyhalli Sub division, BBMP, Bangalore.
Project Name	:	Providing pothole filling and other maintenance works at Ward No. 13, Mallasandra in Shettyhalli Sub-Division.(Emergency Grant)
Agency	:	M/s Inchara Construction, No. 60, 4th feet, Nandhi Nagara, Hesaraghatta Main road, Chikkabanavara, Bengaluru-90.
Customer's Reference	:	EE/DD/WO/315/17-18
Source of Sample	:	Sample supplied by Agency
Sample Condition	:	Satisfactory
Date of Receipt	:	23-04-18
Sample ID No	:	2018-04-23-13 /03
Sample Type	:	Fine Aggregate
Reference to BIS codes	:	IS 383 : 2016 (Specification for Coarse and fine Aggregates) IS: 2386 :1963(Part - 1, 3) RA2012 IS 2386 Part 1: Particle Size and Shape IS 2386 Part 3: Specific gravity, Density, Voids,Water Absorption
Date of test	:	23-04-18
Total weight taken	:	1000 grams

Sl.no	Sieve Size	Weight Retained (gms)	Cumulative Weight Retained (gms)	% Cumulative Weight Retained	% Passing	Requirement as per IS 383:2016			
						Grading Zone I	Grading Zone II	Grading Zone III	Grading Zone IV
1	10 mm	0	0	0.0	100.0	100	100	100	100
2	4.75 mm	86	86	8.6	91.4	90-100	90-100	90-100	95-100
3	2.36 mm.	156	242	24.2	75.8	60-95	75-100	85-100	95-100
4	1.18 mm	166	408	40.8	59.2	30-70	55-90	75-100	90-100
5	600 micron	178	586	58.6	41.4	15-34	35-59	60-79	80-100
6	300 micron	185	771	77.1	22.9	5-20	8-30	12-40	15-50
7	150 micron	156	927	92.7	7.3	0-10	0-10	0-10	0-15
8	Pan	73	1000	100.0	0.0	---	---	---	---

Result :The tested Sample Conforms to Grading Zone II

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TEST REPORT OF CEMENT CONCRETE CUBES

Lab ID	:	**CP-2018-05-05-14** **Date: 10/05/2018**
Customer	:	Assistant Executive Engineer, Shettyhalli Sub division, BBMP, Bangalore.
Address	:	Shettyhalli Sub division, BBMP, Bangalore.
Project Name	:	Providing pothole filling and other maintenance works at Ward No. 13, Mallasandra in Shettyhalli Sub-Division.(Emergency Grant)
Agency	:	M/s Inchara Construction, No. 60, 4th feet, Nandhi Nagara, Hesaraghatta Main road, Chikkabanavara, Bengaluru-90.
Customer's Reference	:	EE/DD/WO/315/17-18
Source of Sample	:	Sample supplied by Agency
Sample Condition	:	Satisfactory
Date of Receipt	:	05-05-18
Sample ID No	:	2018-05-05-14 /01
Customer ID	:	PCC
Sample Type /Size	:	150X150X150 mm
Sample grade/Age	:	M15 / 7 Days Compressive Strength
Reference to BIS codes	:	IS: 516 - 1959 Methods of Tests for Strength of Concrete Cl.5
Date of test	:	10/05/2018

Sl. No.	Identification Mark	Grade of concrete	Date of Casting	Date of Testing	Dimension of the Specimen (mm)	Cross sectional area (Sq.mm)	Weight of the sample (kg)	Failure Load (KN)	Compressive strength (N/mm^2)	Average Compressive Strength (N/mm^2)
1	PCC	M15	03/05/2018	10/05/2018	150.23 X 150.44 X 150.35	22601	8.205	278.0	12.3	12.8
2	PCC	M15	03/05/2018	10/05/2018	149.63 X 151.34 X 150.74	22645	8.243	298.9	13.2	
3	PCC	M15	03/05/2018	10/05/2018	149.72 X 151.72 X 150.36	22716	8.175	290.8	12.8	

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ಎಸ್.ಎಂ. ದಿನೇ, ಡಿವೀಅನಗರ, ಬೆಂಗಳೂರು

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TEST RESULTS OF GRADATION FOR WMM

Lab ID	:	**CP-RW-2018-04-30-12** **Date: 02-05-18**
Customer	:	Assistant Executive Engineer, Shettyhalli Sub division, BBMP, Bangalore.
Address	:	Shettyhalli Sub division, BBMP, Bangalore.
Project Name	:	Providing pothole filling and other maintainance works at Ward No. 13, Mallasandra in Shettyhalli Sub-Division.(Emergency Grant)
Agency	:	M/s Inchara Construction, No. 60, 4th feet, Nandhi Nagara, Hesaraghatta Main road, Chikkabanavara, Bengaluru-90.
Customer Reference	:	EE/DD/WO/315/17-18
Source of Sample	:	Sample supplied by Agency
Sample Condition	:	Satisfactory
Date of Receipt	:	30-04-18
Sample ID No	:	2018-04-30-12/01
Type of Mix	:	WMM (Wet Mix Macadam)
Date of test	:	30-04-18
Oven Dry Weight	:	10000 Grams

IS Sieve Size(mm)	Weight Retained (gm)	Cumulative Weight Retained (gm)	% Cumulative Weight Retained	% Passing	Spec.I.Vide Table 400.13 MORTH Specification
53	0	0	0.0	100.0	100
45	315	315	3.2	96.9	95-100
22.4	2259	2574	25.7	74.3	60-80
11.2	2179	4753	47.5	52.5	40-60
4.75	2251	7004	70.0	30.0	25-40
2.36	1490	8494	84.9	15.1	15-30
0.6	600	9094	90.9	9.1	8-22
0.075	906	10000	100.0	0.0	0-5

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ಎಸ್.ಎಂ. ರಸ್ತೆ, ಸದಾಶಿವನಗರ, ಬೆಂಗಳೂರು

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TEST REPORT OF AGGEGRATE IMPACT VALUE
IS: 2386 Part IV

Lab ID	:	**CP-RW-2018-04-30-12**	**Date: 02-05-18**
Customer	:	Assistant Executive Engineer, Shettyhalli Sub division, BBMP, Bangalore.	
Address	:	Shettyhalli Sub division, BBMP, Bangalore.	
Project Name	:	Providing pothole filling and other maintainance works at Ward No. 13, Mallasandra in Shettyhalli Sub-Division.(Emergency Grant)	
Agency	:	M/s Inchara Construction, No. 60, 4th feet, Nandhi Nagara, Hesaraghatta Main road, Chikkabanavara, Bengaluru-90.	
Customer Reference	:	EE/DD/WO/315/17-18	
Source of Sample	:	Sample supplied by Agency	
Sample Condition	:	Satisfactory	
Date of Receipt	:	30-04-18	
Sample ID No	:	2018-04-30-12/01	
Type of Mix	:	Coarse Aggregate for WMM (Wet Mix Macadam)	
Date of test	:	30-04-18	

Sl.No	Particulars of observations	Index	TEST 1	TEST 2
1	Total weight of the surface dry sample sample (passing 12.5 mm and retained on 10mm sieve)	A	300.2	300.2
2	Weight of fraction passing 2.36mm sieve After giving 15 blows	B	73.9	74.0
3	weight of fraction retained 2.36mm sieve After giving 15 blows	C	225.9	225.8
4	Total weight of (B+C) is less than the initial weight (Weight A) by more than one gram the result shall be discarded and a fresh test made.	A-(B+C)	0.4	0.4
5	Aggregate impact value	(B/A)*100	24.6	24.7
6	Aggregate impact value (Mean of two tests)	Pecentage	24.6	

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ಎಸ್.ಎಂ. ರಸ್ತೆ, ಇಂದಿರಾನಗರ, ಬೆಂಗಳೂರು

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DETERMINATION OF FLAKINESS INDEX AND ELONGATION INDEX OF COARSE AGGREGATE(IS 2386 (Part 1) 1963 (RA 2007)

Lab ID	:	**CP-RW-2018-04-30-12** **Date: 02-05-18**
Customer	:	Assistant Executive Engineer, Shettyhalli Sub division, BBMP, Bangalore.
Address	:	Shettyhalli Sub division, BBMP, Bangalore.
Project Name	:	Providing pothole filling and other maintainance works at Ward No. 13, Mallasandra in Shettyhalli Sub-Division.(Emergency Grant)
Agency	:	M/s Inchara Construction, No. 60, 4th feet, Nandhi Nagara, Hesaraghatta Main road, Chikkabanavara, Bengaluru-90.
Customer Reference	:	EE/DD/WO/315/17-18
Source of Sample	:	Sample supplied by Agency
Sample Condition	:	Satisfactory
Date of Receipt	:	30-04-18
Sample ID No	:	2018-04-30-12/01
Type of Mix	:	Coarse Aggregate for WMM (Wet Mix Macadam)
Date of test	:	30-04-18

Result:

Index	Percentage of Flakiness and Elongation Index	Secified limits as per MORTH specification table 400-12
Flakiness Index	12.8%	Combined Flakiness & Elongation Index for WMM is Maximum 35%
Elongation Index	12.5%	
Combined Flakiness and Elongation Index for WMM	25.3%	

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TEST RESULTS OF GRADATION FOR BC
IS 2386 (Part 1) 1963 (RA 2007)

Lab ID	:	**CP-RW-2018-05-04-08**	**Date: 07-05-18**
Customer	:	Assistant Executive Engineer, Shettyhalli Sub division, BBMP, Bangalore.	
Address	:	Shettyhalli Sub division, BBMP, Bangalore.	
Project Name	:	Providing pothole filling and other maintainance works at Ward No. 13, Mallasandra in Shettyhalli Sub-Division.(Emergency Grant)	
Agency	:	M/s Inchara Construction, No. 60, 4th feet, Nandhi Nagara, Hesaraghatta Main road, Chikkabanavara, Bengaluru-90.	
Customer Reference	:	EE/DD/WO/315/17-18	
Source of Sample	:	Sample supplied by Agency	
Sample Condition	:	Satisfactory	
Date of Receipt	:	04-05-18	
Sample ID No	:	2018-05-04-08/01	
Type of Mix	:	BC-Plant (Bituminous Concrete)	
Date of test	:	04-05-18	
Oven Dry Weight	:	5000	Grams

IS Sieve Size (mm)	Weight Retained (gm)	Comulative Weight Retained (gm)	Comulative % of Retained	Comulative % of Passing	Secified limits as per MORTH specification table 500-17(grading-2)
19	0	0	0.0	100.0	100
13.2	300	300	6.0	94.0	90-100
9.5	450	750	15.0	85.0	70-88
4.75	1200	1950	39.0	61.0	53-71
2.36	150	2100	42.0	58.0	42-58
1.18	550	2650	53.0	47.0	34-48
0.6	450	3100	62.0	38.0	26-38
0.3	600	3700	74.0	26.0	18-28
0.15	600	4300	86.0	14.0	12-20
0.075	250	4550	91.0	9.0	4-10
PAN	450	5000	100	0.0	0

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ಎಸ್.ಎಂ. ರಸ್ತೆ, ರವೀಂದ್ರನಗರ, ಬೆಂಗಳೂರು

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PHYSICAL REQUIREMENTS FOR COARSE AGGREGATE FOR BITUMINOUS CONCRETE

Date: 07-05-18

Lab ID	:	**CP-RW-2018-05-04-08**
Customer	:	Assistant Executive Engineer, Shettyhalli Sub division, BBMP, Bangalore.
Address	:	Shettyhalli Sub division, BBMP, Bangalore.
Project Name	:	Providing pothole filling and other maintainance works at Ward No. 13, Mallasandra in Shettyhalli Sub-Division.(Emergency Grant)
Agency	:	M/s Inchara Construction, No. 60, 4th feet, Nandhi Nagara, Hesaraghatta Main road, Chikkabanavara, Bengaluru-90.
Customer Reference	:	EE/DD/WO/315/17-18
Source of Sample	:	Sample supplied by Agency
Sample Condition	:	Satisfactory
Date of Receipt	:	04-05-18
Sample ID No	:	2018-05-04-08/01
Type of Mix	:	BC (Bituminous Concrete)
Date of test	:	04-05-18

Table 500-16 : Physical Requirements fo Coarse Aggregate for Bituminous Concrete

Property	Test	Result	Specification	Method of Test
Partical Shape	Flakiness Index	14.3	Combined Flakiness & Elongation Index for BC is Maximum 35%	IS:2386 Part I
	Elongation Index	13.1		
Strength	Aggregate Impact Value	21.0	Maximum 24%	IS:2386 Part IV
Specific gravity	Specific gravity	2.6	Maximum 2.7	IS:2386 Part III
Water Absorption	Water Absorption	1.1	Maximum 2%	IS:2386 Part III

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